



Strand II: Geometry and Measurement

Standard I: Shape and Shape Relationships - Students develop spatial sense, use shape as an analytic and descriptive tool, identify characteristics and define shapes, identify properties and describe relationships among shapes.

Key Ideas:

- 1. Spatial sense relies on the ability to recognize and describe shape.
- 2. Recognizing attributes and characteristics of shapes is a prerequisite for understanding.
- 3. Comparing, sorting and classifying shapes leads to useful generalizations.
- 4. Drawing and constructing shapes in two and three dimensions are important ways to represent the world.
- 5. Understanding shapes requires recognition of what happens when shapes are combined, dissected or transformed.
- 6. Figures that are alike in size and/or shape and figures that have special relationships to each other lead to important generalizations.
- 7. Shape, shape properties, and shape relationships help students to describe and make sense of the physical world and to solve problems.

Elementary Benchmark	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4
1. Recognize and name familiar shapes in one, two and three dimensions such as lines, rectangles and spheres and informally discuss the shape of a graph.	<b>Create, explore, and describe shapes</b> <b>G.GS.00.01</b> Relate familiar three-dimensional objects inside and outside the classroom to their geometric name, e.g., ball/sphere, box/cube, soup can/cylinder, ice cream cone/cone, refrigerator/prism.	<b>Create and describe shapes</b> <b>G.GS.01.01</b> Create common two-dimensional and three-dimensional shapes and describe their physical and geometric attributes, such as color and shape.	<b>Identify and describe shapes</b> <b>G.GS.02.01</b> Identify, describe, and compare familiar two-dimensional and three-dimensional shapes, such as triangles, rectangles, squares, circles, semi-circles, spheres, rectangular prisms.	<b>Recognize the basic elements of geometric objects</b> <b>G.GS.03.01</b> Identify points, line segments, lines and distance. <b>G.GS.03.02</b> Identify perpendicular lines and parallel lines in familiar shapes and in the classroom. <b>G.GS.03.03</b> Identify parallel faces of rectangular prisms, in familiar shapes and in the classroom. <b>Name, and explore properties of shapes</b> <b>G.GS.03.04</b> Identify, describe, compare and classify two-dimensional shapes, e.g., parallelogram, trapezoid, circle, rectangle, square and rhombus, based on their component parts (angles, sides, vertices, line segment) and the number of sides and vertices. <b>Explore and name three-dimensional solids</b> <b>G.GS.03.06</b> Identify, describe, build and classify familiar three-dimensional solids, e.g., cube, rectangular prism, sphere, pyramid, cone, based on their component parts (faces, surfaces, bases, edges, vertices). <b>G.SR.03.07</b> Represent front, top, and side views of solids built with cubes.	<b>Understand perpendicular, parallel, and intersecting lines</b> <b>G.GS.04.01</b> Identify and draw perpendicular, parallel, and intersecting lines using a ruler and a tool or object with a square (90°) corner. <b>Identify basic geometric shapes and their components, and solve problems</b> <b>G.GS.04.02</b> Identify basic geometric shapes, including isosceles, equilateral and right triangles, and use their properties to solve problems. <b>G.SR.04.03</b> Identify and count the faces, edges, and vertices of basic three-dimensional geometric solids including cubes, rectangular prisms, and pyramids; describe the shape of their faces. <b>Understand right angles</b> <b>M.TE.04.10</b> Identify right angles and compare angles to right angles.

2. Describe the attributes of familiar shapes.	<b>Create, explore, and describe shapes</b> <b>G.GS.00.02</b> Identify, sort and classify objects by attribute and identify objects that do not belong in a particular group.	<b>Create and describe shapes</b> <b>G.GS.01.01</b> Create common two-dimensional and three-dimensional shapes and describe their physical and geometric attributes, such as color and shape.	<b>Identify and describe shapes</b> <b>G.GS.02.01</b> Identify, describe, and compare familiar two-dimensional and three-dimensional shapes, such as triangles, rectangles, squares, circles, semi-circles, spheres, rectangular prisms. <b>G.GS.02.04</b> Distinguish between curves and straight lines and between curved surfaces and flat surfaces. <b>G.SR.02.05</b> Classify familiar plane and solid objects, e.g., square, rectangle, rhombus, cube, pyramid, prism, cone, cylinder, and sphere, by common attributes such as shape, size, color, roundness or number of corners and explain which attributes are being used for classification.	<b>Name, and explore properties of shapes</b> <b>G.GS.03.04</b> Identify, describe, compare and classify two-dimensional shapes, e.g., parallelogram, trapezoid, circle, rectangle, square and rhombus, based on their component parts (angles, sides, vertices, line segment) and the number of sides and vertices. <b>G.SR.03.05</b> Compose and decompose triangles and rectangles to form other familiar two-dimensional shapes; e.g., form a rectangle using two congruent right triangles, or decompose a parallelogram into a rectangle and two right triangles. <b>Explore and name three-dimensional solids</b> <b>G.GS.03.06</b> Identify, describe, build and classify familiar three-dimensional solids, e.g., cube, rectangular prism, sphere, pyramid, cone, based on their component parts (faces, surfaces, bases, edges, vertices).	<b>Identify basic geometric shapes and their components, and solve problems</b> <b>G.GS.04.02</b> Identify basic geometric shapes, including isosceles, equilateral and right triangles, and use their properties to solve problems. <b>G.SR.04.03</b> Identify and count the faces, edges, and vertices of basic three-dimensional geometric solids including cubes, rectangular prisms, and pyramids; describe the shape of their faces. <b>Understand right angles</b> <b>M.TE.04.10</b> Identify right angles and compare angles to right angles.
3. Compare, sort and classify familiar shapes.	<b>Create, explore, and describe shapes</b> <b>G.GS.00.01</b> Relate familiar three-dimensional objects inside and outside the classroom to their geometric name, e.g., ball/sphere, box/cube, soup can/cylinder, ice cream cone/cone, refrigerator/prism. <b>G.GS.00.02</b> Identify, sort and classify objects by attribute and identify objects that do not belong in a particular group.		<b>Identify and describe shapes</b> <b>G.GS.02.01</b> Identify, describe, and compare familiar two-dimensional and three-dimensional shapes, such as triangles, rectangles, squares, circles, semi-circles, spheres, rectangular prisms. <b>G.GS.02.02</b> Explore and predict the results of putting together and taking apart two-dimensional and three-dimensional shapes. <b>G.SR.02.05</b> Classify familiar plane and solid objects, e.g., square, rectangle, rhombus, cube, pyramid, prism, cone, cylinder, and sphere, by common attributes such as shape, size, color, roundness or number of corners and explain which attributes are being used for classification.	<b>Name, and explore properties of shapes</b> <b>G.GS.03.04</b> Identify, describe, compare and classify two-dimensional shapes, e.g., parallelogram, trapezoid, circle, rectangle, square and rhombus, based on their component parts (angles, sides, vertices, line segment) and the number of sides and vertices. <b>Explore and name three-dimensional solids</b> <b>G.GS.03.06</b> Identify, describe, build and classify familiar three-dimensional solids, e.g., cube, rectangular prism, sphere, pyramid, cone, based on their component parts (faces, surfaces, bases, edges, vertices).	<b>Identify basic geometric shapes and their components, and solve problems</b> <b>G.GS.04.02</b> Identify basic geometric shapes, including isosceles, equilateral and right triangles, and use their properties to solve problems. <b>G.SR.04.03</b> Identify and count the faces, edges, and vertices of basic three-dimensional geometric solids including cubes, rectangular prisms, and pyramids; describe the shape of their faces.
4. Draw and build familiar shapes.	<b>Explore geometric patterns</b> <b>G.GS.00.03</b> Create, describe, and extend simple geometric patterns.	<b>Create and describe shapes</b> <b>G.GS.01.01</b> Create common two-dimensional and three-dimensional shapes and describe their physical and geometric attributes, such as color and shape.	<b>Identify and describe shapes</b> <b>G.GS.02.02</b> Explore and predict the results of putting together and taking apart two-dimensional and three-dimensional shapes. <b>G.GS.02.03</b> Draw rectangles and triangles, and compute perimeters by adding lengths of sides, recognizing the meaning of perimeter.	<b>Name, and explore properties of shapes</b> <b>G.SR.03.05</b> Compose and decompose triangles and rectangles to form other familiar two-dimensional shapes; e.g., form a rectangle using two congruent right triangles, or decompose a parallelogram into a rectangle and two right triangles. <b>Explore and name three-dimensional solids</b> <b>G.GS.03.06</b> Identify, describe, build and classify familiar three-dimensional solids, e.g., cube, rectangular prism, sphere, pyramid, cone, based on their component parts (faces, surfaces, bases, edges, vertices). <b>G.SR.03.07</b> Represent front, top, and side views of solids built with cubes.	<b>Understand perpendicular, parallel, and intersecting lines</b> <b>G.GS.04.01</b> Identify and draw perpendicular, parallel, and intersecting lines using a ruler and a tool or object with a square (90°) corner.
5. Explore ways to combine, dissect and transform shapes.		<b>Create and describe shapes</b> <b>G.GS.01.01</b> Create common two-dimensional and three-dimensional shapes and describe their physical and	<b>G.GS.02.02</b> Explore and predict the results of putting together and taking apart two-dimensional and three-dimensional shapes.	<b>G.SR.03.05</b> Compose and decompose triangles and rectangles to form other familiar two-dimensional shapes; e.g., form a rectangle using two congruent right triangles, or	<b>Recognize symmetry and transformations</b> <b>G.TR.04.04</b> Recognize plane figures that have line symmetry.

		geometric attributes, such as color and shape.		decompose a parallelogram into a rectangle and two right triangles. <b>Explore and name three-dimensional solids</b> <b>G.GS.03.06</b> Identify, describe, build and classify familiar three-dimensional solids, e.g., cube, rectangular prism, sphere, pyramid, cone, based on their component parts (faces, surfaces, bases, edges, vertices).	<b>G.TR.04.05</b> Recognize rigid motion transformations (flips, slides, turns) of a two-dimensional object.
6. Recognize parallel and perpendicular line segments and figures that have similarity and/or congruence.			.	<b>Recognize the basic elements of geometric objects</b> <b>G.GS.03.01</b> Identify points, line segments, lines and distance. <b>G.GS.03.02</b> Identify perpendicular lines and parallel lines in familiar shapes and in the classroom.	<b>Understand perpendicular, parallel, and intersecting lines</b> <b>G.GS.04.01</b> Identify and draw perpendicular, parallel, and intersecting lines using a ruler and a tool or object with a square (90°) corner. <b>Recognize symmetry and transformations</b> <b>G.TR.04.05</b> Recognize rigid motion transformations (flips, slides, turns) of a two-dimensional object.
7. Use shape, shape properties and shape relationships to describe the physical world and to solve problems.	<b>Create, explore, and describe shapes</b> <b>G.GS.00.01</b> Relate familiar three-dimensional objects inside and outside the classroom to their geometric name, e.g., ball/sphere, box/cube, soup can/cylinder, ice cream cone/cone, refrigerator/prism.		<b>Identify and describe shapes</b> <b>G.GS.02.01</b> Identify, describe, and compare familiar two-dimensional and three-dimensional shapes, such as triangles, rectangles, squares, circles, semi-circles, spheres, rectangular prisms. <b>Identify and describe shapes</b> <b>G.GS.02.02</b> Explore and predict the results of putting together and taking apart two-dimensional and three-dimensional shapes. <b>G.GS.02.03</b> Draw rectangles and triangles, and compute perimeters by adding lengths of sides, recognizing the meaning of perimeter. <b>G.SR.02.05</b> Classify familiar plane and solid objects, e.g., square, rectangle, rhombus, cube, pyramid, prism, cone, cylinder, and sphere, by common attributes such as shape, size, color, roundness or number of corners and explain which attributes are being used for classification.	<b>Recognize the basic elements of geometric objects</b> <b>G.GS.03.02</b> Identify perpendicular lines and parallel lines in familiar shapes and in the classroom. <b>G.GS.03.03</b> Identify parallel faces of rectangular prisms, in familiar shapes and in the classroom. <b>Name, and explore properties of shapes</b> <b>G.GS.03.04</b> Identify, describe, compare and classify two-dimensional shapes, e.g., parallelogram, trapezoid, circle, rectangle, square and rhombus, based on their component parts (angles, sides, vertices, line segment) and the number of sides and vertices. <b>G.SR.03.05</b> Compose and decompose triangles and rectangles to form other familiar two-dimensional shapes; e.g., form a rectangle using two congruent right triangles, or decompose a parallelogram into a rectangle and two right triangles. <b>Explore and name three-dimensional solids</b> <b>G.GS.03.06</b> Identify, describe, build and classify familiar three-dimensional solids, e.g., cube, rectangular prism, sphere, pyramid, cone, based on their component parts (faces, surfaces, bases, edges, vertices). <b>G.SR.03.07</b> Represent front, top, and side views of solids built with cubes. <b>Solve measurement problems</b> <b>M.PS.03.13</b> Solve contextual problems about perimeters of rectangles and areas of rectangular regions.	<b>Use perimeter and area formulas</b> <b>M.TE.04.06</b> Know and understand the formulas for perimeter and area of a square and a rectangle; calculate the perimeters and areas of these shapes and combinations of these shapes using the formulas. <b>M.TE.04.07</b> Find one dimension of a rectangle given the other dimension and its perimeter or area. <b>M.TE.04.08</b> Find the side of a square given its perimeter or area. <b>M.PS.04.09</b> Solve contextual problems about perimeter and area of squares and rectangles in compound shapes. <b>Problem solving</b> <b>M.PS.04.11</b> Solve contextual problems about surface area.





Strand II: Geometry and Measurement

Standard 2: Position - Students identify locations of objects, identify location relative to other objects, and describe the effects of transformations (e.g., sliding, flipping, turning, enlarging, reducing) on an object.

- Key Ideas:
- 1. Locating physical objects or points in space requires understanding of position.
  - 2. Concepts of direction, orientation, relative position and symmetry enable students to describe objects relative to their surroundings.
  - 3. Certain actions can change the size, shape, position or orientation of an object.
  - 4. Locating all the points that satisfy a condition or the special points that satisfy two or more conditions is an important spatial ability.
  - 5. Concepts of position, direction and orientation enable students to describe the physical world and to solve problems.

Elementary Benchmark	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4
1. Locate and describe objects in terms of their position, including front, back, inside, outside, right, left, over, under, next to, between and locations on the number line, on a coordinate graph and on a map.		<b>Count, write, and order numbers</b> <b>N.ME.01.05</b> Understand that a number to the right of another number on the number line is bigger and that a number to the left is smaller. <b>G.LO.01.02</b> Describe relative position of objects on a plane and in space, using words such as above, below, behind, in front of.	<b>Work with unit fractions</b> <b>N.ME.02.20</b> Place 0 and halves, e.g., $\frac{1}{2}$ , $1\frac{1}{2}$ , $2\frac{1}{2}$ , on the number line; relate to a ruler. <b>Use coordinate systems</b> <b>G.LO.02.07</b> Find and name locations using simple coordinate systems such as maps and first quadrant grids.	<b>Understand simple fractions, relation to the whole, and addition and subtraction of fractions</b> <b>N.ME.03.18</b> Place fractions with denominators of 2, 4, and 8 on the number line; relate the number line to a ruler; compare and order up to three fractions with denominators 2, 4, and 8.	
2. Locate and describe objects in terms of their orientation, direction and relative position, including up, down, front, back, N- S- E- W, flipped, turned, translated; recognize symmetrical objects and identify their lines of symmetry.		<b>Create and describe shapes</b> <b>G.LO.01.02</b> Describe relative position of objects on a plane and in space, using words such as above, below, behind, in front of.	<b>Use coordinate systems</b> <b>G.LO.02.07</b> Find and name locations using simple coordinate systems such as maps and first quadrant grids.		<b>Recognize symmetry and transformations</b> <b>G.TR.04.04</b> Recognize plane figures that have line symmetry. <b>G.TR.04.05</b> Recognize rigid motion transformations (flips, slides, turns) of a two-dimensional object.
3. Explore what happens to the size, shape and position of an object after sliding, flipping, turning, enlarging, or reducing it.			<b>Identify and describe shapes</b> <b>G.TR.02.06</b> Recognize that shapes that have been slid, turned or flipped are the same shape, e.g., a square rotated 45° is still a square.		<b>Recognize symmetry and transformations</b> <b>G.TR.04.04</b> Recognize plane figures that have line symmetry. <b>G.TR.04.05</b> Recognize rigid motion transformations (flips, slides, turns) of a two-dimensional object.
(Does not apply at the elementary grades.)					
5. Use concepts of position, direction and orientation to describe the physical world and to solve problems.		<b>Create and describe shapes</b> <b>G.LO.01.02</b> Describe relative position of objects on a plane and in space, using words such as above, below, behind, in front of.	<b>Identify and describe shapes</b> <b>G.TR.02.06</b> Recognize that shapes that have been slid, turned or flipped are the same shape, e.g., a square rotated 45° is still a square. <b>Use coordinate systems</b> <b>G.LO.02.07</b> Find and name locations using simple coordinate systems such as maps and first quadrant grids.		<b>Recognize symmetry and transformations</b> <b>G.TR.04.04</b> Recognize plane figures that have line symmetry. <b>G.TR.04.05</b> Recognize rigid motion transformations (flips, slides, turns) of a two-dimensional object.



II: Geometry and Measurement

**Standard 3: Measurement** - Students compare attributes of two objects, or of one object with a standard (unit), and analyze situations to determine what measurement(s) should be made and to what level of precision.

- Key Ideas:
- 1. A fundamental component of measurement and learning to measure is the comparison of an object or property to a unit of comparison
  - 2. Measurement requires that students identify the attribute to be measured and an appropriate unit.
  - 3. Students develop a better understanding of the physical world if they regularly estimate before they measure and evaluate their estimates after they measure.
  - 4. Measurement is incomplete unless students interpret the meaning and significance of their results.
  - 5. It is not always possible to measure a quantity directly; in such cases students must use other indirect means.
  - 6. Measurement reflects the usefulness and practicality of mathematics and puts students in touch with the physical world.

Elementary Benchmark	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4
1. Compare attributes of objects; develop standard units of measurement; and select and use standard tools for measurement.	<b>Explore concepts of time</b> <b>M.UN.00.01</b> Know and use the common words for the parts of the day (morning, afternoon, evening, night) and relative time (yesterday, today, tomorrow, last week, next year). <b>M.TE.00.02</b> Identify tools that measure time (clocks measure hours and minutes; calendars measure days, weeks, and months). <b>M.UN.00.03</b> Identify daily landmark times to the nearest hour (lunchtime is 12 o'clock, bedtime is 8 o'clock). <b>Explore other measurement attributes</b> <b>M.UN.00.04</b> Compare two or more objects by length, weight and capacity, e.g., which is shorter, longer, taller? <b>M.PS.00.05</b> Compare length and weight of objects by comparing to reference objects, and use terms such as shorter, longer, taller, lighter, heavier.	<b>Estimate and measure length</b> <b>M.UN.01.01</b> Measure the lengths of objects in non-standard units (e.g., pencil lengths, shoe lengths) to the nearest whole unit. <b>M.UN.01.02</b> Compare measured lengths using the words shorter, shortest, longer, longest, taller, tallest, etc. <b>Tell time</b> <b>M.UN.01.03</b> Tell time on a twelve-hour clock face to the hour and half hour. <b>Work with money</b> <b>M.UN.01.04</b> Identify the different denominations of coins and bills. <b>M.UN.01.05</b> Match one coin or bill of one denomination to an equivalent set of coins/bills of other denominations, e.g., 1 quarter = 2 dimes and 1 nickel. <b>M.UN.01.06</b> Tell the amount of money: in cents up to \$1, in dollars up to \$100. Use the symbols \$ and ¢. <b>M.PS.01.07</b> Add and subtract money in dollars only or in cents only.	<b>Measure, add, and subtract length</b> <b>M.UN.02.01</b> Measure lengths in meters, centimeters, inches, feet, and yards approximating to the nearest whole unit and using abbreviations: cm, m, in, ft, yd. <b>Tell time and solve time problems</b> <b>M.UN.02.05</b> Using both A.M. and P.M., tell and write time from the clock face in 5 minute intervals, and from digital clocks to the minute; include reading time: 9:15 as nine-fifteen and 9:50 as nine-fifty. Interpret time both as minutes after the hour and minutes before the next hour, e.g., 8:50 as eight-fifty and ten to nine. Show times by drawing hands on clock face. <b>M.UN.02.06</b> Use the concept of duration of time, e.g., determine what time it will be half an hour from 10:15. <b>Record, add and subtract money</b> <b>M.UN.02.07</b> Read and write amounts of money using decimal notations, e.g., \$1.15. <b>M.PS.02.08</b> Add and subtract money in mixed units, e.g., \$2.50 + 60 cents and \$5.75 - \$3, but not \$2.50 + \$3.10. <b>Read thermometers</b> <b>M.UN.02.09</b> Read temperature using the scale on a thermometer in degrees Fahrenheit	<b>Measure and use units for length, weight, temperature and time</b> <b>M.UN.03.01</b> Know and use common units of measurements in length, weight and time. <b>M.UN.03.02</b> Measure in mixed units within the same measurement system for length, weight and time: feet and inches, meters and centimeters, kilograms and grams, pounds and ounces, liters and milliliters, hours and minutes, minutes and seconds, years and months. <b>M.UN.03.03</b> Understand relationships between sizes of standard units, e.g., feet and inches, meters and centimeters. <b>M.UN.03.04</b> Know benchmark temperatures such as freezing (32° F, 0° C); boiling (212° F, 100° C); and compare temperatures to these, e.g., cooler, warmer.	<b>Understand perpendicular, parallel, and intersecting lines</b> <b>G.GS.04.01</b> Identify and draw perpendicular, parallel, and intersecting lines using a ruler and a tool or object with a square (90°) corner. <b>Measure using common tools and appropriate units</b> <b>M.UN.04.01</b> Measure using common tools and select appropriate units of measure. <b>M.UN.04.03</b> Measure and compare integer temperatures in degrees.

2. Identify the attributes to be measured and select the appropriate unit of measurement for length, mass (weight), area, perimeter, capacity, time, temperature and money.	<b>Explore other measurement attributes</b> <b>M.UN.00.04</b> Compare two or more objects by length, weight and capacity, e.g., which is shorter, longer, taller?	<b>Work with money</b> <b>M.UN.01.06</b> Tell the amount of money: in cents up to \$1, in dollars up to \$100. Use the symbols \$ and ¢.	<b>Tell time and solve time problems</b> <b>M.UN.02.05</b> Using both A.M. and P.M., tell and write time from the clock face in 5 minute intervals, and from digital clocks to the minute; include reading time: 9:15 as nine-fifteen and 9:50 as nine-fifty. Interpret time both as minutes after the hour and minutes before the next hour, e.g., 8:50 as eight-fifty and ten to nine. Show times by drawing hands on clock face. <b>M.UN.02.06</b> Use the concept of duration of time, e.g., determine what time it will be half an hour from 10:15. <b>Record, add and subtract money</b> <b>M.UN.02.07</b> Read and write amounts of money using decimal notations, e.g., \$1.15.	<b>Measure and use units for length, weight, temperature and time</b> <b>M.UN.03.01</b> Know and use common units of measurements in length, weight and time. <b>Understand meaning of area and perimeter and apply in problems</b> <b>M.UN.03.05</b> Know the definition of area and perimeter and calculate the perimeter of a square and rectangle given whole number side lengths. <b>M.UN.03.06</b> Use square units in calculating area by covering the region and counting the number of square units. <b>M.UN.03.07</b> Distinguish between units of length and area and choose a unit appropriate in the context.	<b>Measure using common tools and appropriate units</b> <b>M.UN.04.01</b> Measure using common tools and select appropriate units of measure.
3. Develop strategies for estimating measures and compare the estimates to the results of the measurement; decide if an estimate is “a good estimate.”		<b>Estimate and measure length</b> <b>M.UN.01.01</b> Measure the lengths of objects in non-standard units (e.g., pencil lengths, shoe lengths) to the nearest whole unit. <b>M.UN.01.02</b> Compare measured lengths using the words shorter, shortest, longer, longest, taller, tallest, etc.	<b>Measure, add, and subtract length</b> <b>M.UN.02.01</b> Measure lengths in meters, centimeters, inches, feet, and yards approximating to the nearest whole unit and using abbreviations: cm, m, in, ft, yd. <b>Understand the concept of area</b> <b>M.UN.02.03</b> Measure area using non-standard units to the nearest whole unit.	<b>Understand meaning of area and perimeter and apply in problems</b> <b>M.UN.03.08</b> Visualize and describe the relative sizes of one square inch and one square centimeter. <b>Estimate perimeter and area</b> <b>M.TE.03.09</b> Estimate the perimeter of a square and rectangle in inches and centimeters; estimate the area of a square and rectangle in square inches and square centimeters.	<b>Measure using common tools and appropriate units</b> <b>M.PS.04.02</b> Give answers to a reasonable degree of precision in the context of a given problem.
4. Explain the meaning of measurements and recognize that the number of units it takes to measure an object is related to the size of the unit.		<b>Estimate and measure length</b> <b>M.UN.01.01</b> Measure the lengths of objects in non-standard units (e.g., pencil lengths, shoe lengths) to the nearest whole unit. <b>Tell time</b> <b>M.UN.01.03</b> Tell time on a twelve-hour clock face to the hour and half hour.	<b>Measure, add, and subtract length</b> <b>M.UN.02.01</b> Measure lengths in meters, centimeters, inches, feet, and yards approximating to the nearest whole unit and using abbreviations: cm, m, in, ft, yd. <b>Understand the concept of area</b> <b>M.UN.02.03</b> Measure area using non-standard units to the nearest whole unit. <b>M.TE.02.04</b> Find the area of a rectangle with whole number side lengths by covering with unit squares and counting, or by using a grid of unit squares; write the area as a product.		<b>Measure using common tools and appropriate units</b> <b>M.TE.04.04</b> Measure surface area of cubes and rectangular prisms by covering and counting area of the faces. <b>Convert measurement units</b> <b>M.TE.04.05</b> Carry out the following conversions from one unit of measure to a larger or smaller unit of measure: meters to centimeters, kilograms to grams, liters to milliliters, hours to minutes, minutes to seconds, years to months, weeks to days, feet to inches, ounces to pounds (using numbers that involve only simple calculations.)
5. Explore scale drawings, models and maps and relate them to measurements of real objects.					
6. Apply measurement to describe the real world and to solve problems.			<b>Measure, add, and subtract length</b> <b>M.PS.02.02</b> Compare lengths; add and subtract lengths (no conversion of units). <b>Record, add and subtract money</b> <b>M.PS.02.08</b> Add and subtract money in mixed units, e.g., \$2.50 + 60 cents and \$5.75 - \$3, but not \$2.50 + \$3.10. <b>Solve measurement problems</b> <b>M.PS.02.10</b> Solve simple word problems involving length and money.	<b>Solve measurement problems</b> <b>M.PS.03.10</b> Add and subtract lengths, weights and times using mixed units, within the same measurement system. <b>M.PS.03.11</b> Add and subtract money in dollars and cents. <b>M.PS.03.12</b> Solve applied problems involving money, length and time. <b>M.PS.03.13</b> Solve contextual problems about perimeters of rectangles and areas of rectangular regions.	<b>Use perimeter and area formulas</b> <b>M.PS.04.09</b> Solve contextual problems about perimeter and area of squares and rectangles in compound shapes. <b>Problem solving</b> <b>M.PS.04.11</b> Solve contextual problems about surface area.

